



Prevention

STATIN USE MAY MITIGATE THE BENEFIT OF OMEGA-3 FATTY ACIDS SUPPLEMENTATION: A META-REGRESSION OF RANDOMIZED TRIALS

Poster Contributions

Poster Sessions, Expo North

Monday, March 11, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Prevention: Treatment of Hyperlipidemia

Abstract Category: 24. Prevention: Clinical

Presentation Number: 1275-18

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Background: - In the past, multiple studies have evaluated role of omega-3 fatty acids (PUFA) supplementation for cardiovascular disease prevention. The benefit found in previous studies was not demonstrated in contemporary trials. We aimed to investigate study characteristics, particularly concomitant statin therapy, responsible for variation in the results of randomized controlled trials (RCT).

Methods: - We systematically searched the Pubmed database for RCTs reporting clinical outcomes after at least 6 months of treatment. A random effect meta-regression of dose, docosahexaenoic acid/eicosapentaenoic acid (DHA/EPA) ratio, and duration of treatment and use of lipid lowering/ statin therapy in control group was performed. Risk difference was used as summary statistics and $p > 0.05$ was considered significant.

Results: - Twenty one studies of 64,627 patients (32,351 PUFA, 32,276 controls) were included. PUFA had no effect on total mortality (RD = 0.00, $p = 0.17$) and cardiovascular mortality (RD = -0.01, $p = 0.06$). Higher control group statin use ($b = 0.016$, $p = 0.002$) and lower DHA/EPA ($b = -0.007$, $p = 0.007$) ratio was associated with decreased effectiveness of PUFA supplementation. Whereas, duration of treatment ($b = 0.0$, $p = 0.9$) and dose ($b = 0.0$, $p = 0.8$) had no effect. None of the above variables had significant effect on reduction in cardiovascular mortality by PUFA supplementation.

Conclusion: - Statin use may mitigate the beneficial effect of PUFA supplementation.

